

Claims

1. Sliding bearing comprising two opposite bearing surfaces (3, 4) which enclose a gap (6) containing a lubricant film (5), said bearing surfaces (3, 4) being moveable with respect to each other in a generally parallel fashion, at least one (4) of said surfaces being provided with at least one cavity (10), said cavity having a depth which is at least equal to the lubricant film thickness, characterised in that at least one of the length and width dimension of the surface area of said cavity amounting to at least 100 μm .
2. Bearing according to claim 1, wherein at least one of the length and width dimensions amounts to at least 1000 μm .
3. Bearing according to claim 1 or 2, wherein at least one of the length and width dimensions amounts to at least 5000 μm (fig. 5, 6).
4. Bearing according to any of the preceding claims, wherein the cavity depth is at least equal to 10 times the lubricant film thickness.
5. Bearing according to any of the preceding claims, wherein the cavity depth is at least equal to 20 times the lubricant film thickness.
6. Bearing according to any of the preceding claims, wherein the cavity depth is maximally 50 times the lubricant film thickness.
7. Bearing according to any of the preceding claims, wherein the sum of the surface areas of all cavities of one and the same bearing surface amounts to at least 15% of the contact area of the bearing surfaces.
8. Bearing according to any of the preceding claims, wherein the sum of the surface areas of all cavities (10) of one (4) and the same bearing surface amounts to at most 50% of the contact area of the bearing surfaces (3, 4).

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9. Bearing according to any of the preceding claims, wherein at least one of the surfaces (3, 4) has at least 4 cavities.

5 10. Bearing according to any of the preceding claims, wherein at least one of the surfaces (3, 4) has at most 8 cavities.

10 11. Bearing according to any of the preceding claims, wherein the gap (6) between the bearing surfaces (3, 4) as seen in the direction of relative movement has an inlet (7) and an outlet (8) for the lubricant film, whereby a bearing length is defined between said inlet (7) and outlet (8) and said inlet (7) and outlet (8) being at a distance from any of the cavities (10).

15 12. Bearing according to claim 11, wherein the center of a cavity (6) or of a group of cavities is located at a distance of 0.6 to 0.8 times the bearing length from the inlet (7).

20 13. Bearing according to claim 11, wherein one and only one cavity (6) is provided, said cavity being positioned approximately at equal distances from the inlet (7) and the outlet (8).

24 14. Bearing according to claim 11 or 12, wherein at least two cavities (6) are provided, the distance between the foremost cavity (10) and the inlet (7) being larger than the distance between the rearmost cavity (10) and the outlet (8).

25 15. Bearing according to any of the preceding claims, wherein a plurality of cavities is provided, said cavities (10) are isolated from each other.

30 16. Bearing according to any of the preceding claims, wherein the lubricant film thickness under running conditions is in the range of 0,01 μm to 10 μm .

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